This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An actinic ray curable composition containing a photo acid generator, and an oxetane compound I of the following formula,

wherein R_1 , R_2 , R_3 , R_4 , R_5 , and R_6 independently represent a hydrogen atom, a fluorine atom, an alkyl group having from 1 to 6 carbon atoms, a fluoroalkyl group having from 1 to 6 carbon atoms, an allyl group, an aryl group, a furyl group or a thienyl group, provided that R_3 , R_4 , R_5 , and R_6 are not simultaneously hydrogen atoms, and wherein the longer C-O bond distance of the two C-O bond distances in the formula is from 0.1464 to 0.1500 nm, and wherein the composition has a viscosity at 25°C of from 7 to 50 mPa·s.

Claim 2 (Canceled).

3. (Previously Presented) The actinic ray curable composition of claim 1, wherein the composition further contains an oxetane compound II represented by formula 2, 3, 4 or 5 or an oxetane compound III represented by formula 6 or 7, Formula 2

$$R_4$$
 R_5
 R_6
 R_6

Formula 3

$$R_{4}$$
 R_{3}
 R_{2}
 R_{5}
 R_{5}

Formula 4

$$R_8 - Z - Z - R_7$$
 R_6
 R_6
 R_6

Formula 5

$$R_8 - Z - R_1 - R_2 - Z - R_7$$

wherein R_1 , R_2 , R_3 , R_4 , R_5 and R_6 independently represent a hydrogen atom or a substituent, and Z represents an oxygen atom, a sulfur atom, a divalent hydrocarbon group or a divalent hydrocarbon group in which an oxygen atom or a sulfur atom is intervened,

Formula 6

$$\begin{bmatrix} R_1 & Z \\ R_4 & R_6 \\ R_3 & O & R_5 \end{bmatrix}_m$$

Formula 7

$$\begin{bmatrix} R_1 & R_2 \\ R_4 & Z \\ R_3 & O & R_5 \end{bmatrix}_m R_9$$

wherein R_1 through R_6 independently represent a hydrogen atom, a fluorine atom, an alkyl group having a carbon atom number of from 1 to 6 such as a methyl group, an ethyl group, a propyl group or a butyl group, a fluoroalkyl group having a carbon atom

number of from 1 to 6, an allyl group, an aryl group, or a furyl group; m is 2, 3 or 4; Z represents an oxygen atom, a sulfur atom, a divalent hydrocarbon group or a divalent hydrocarbon group in which an oxygen atom or a sulfur atom is intervened; and R₉ represents a straight chain or branched chain alkylene group having from 1 to 12 carbon atoms, a straight chain or branched chain poly(alkylene oxy) group, or a divalent group selected from the group consisting of the following formula 9, 10 and 11,

Formula 9

wherein n represents an integer of from 0 to 2000; R_{11} represents an alkyl group having from 1 to 10 carbon atoms or a group represented by the following formula 12; and R_{12} represents an alkyl group having from 1 to 10 carbon atoms,

.

Appl. No. 10/647,170 AMENDMENT FILED CONCOMITANT WITH RCE

Formula 12

wherein j represents an integer of from 0 to 100; R_{13} represents an alkyl group having from 1 to 10 carbon atoms, Formula 10

wherein R_{14} represents an alkyl group having from 1 to 10 carbon atoms, an alkoxy group having from 1 to 10 carbon atoms, a halogen atom, a nitro group, a cyano group, a mercapto group, an alkoxycarbonyl group or a carboxyl group,

Formula 11

wherein R_{15} represents an oxygen atom, a sulfur atom, -NH-, -SO-, -SO₂-, -(CH₂)-, -C(CH₃)₂- or -(CF₃)₂-.

4. (Original) The actinic ray curable composition of claim
1, wherein the composition further contains an oxirane compound
having an oxirane ring.

Claim 5 (Canceled).

6. (Currently Amended) An actinic ray curable composition containing a photo acid generator, and an oxetane compound I' of the following formula,

$$R_4$$
 C R_2 R_6 R_3 O R_5

wherein R_1 , R_2 , R_3 , R_4 , R_5 , and R_6 independently represent a hydrogen atom, a fluorine atom, an alkyl group having from 1 to 6 carbon atoms, a fluoroalkyl group having from 1 to 6 carbon atoms, an allyl group, an aryl group, a furyl group or a thienyl group, provided that R_3 , R_4 , R_5 , and R_6 are not simultaneously hydrogen atoms, and wherein in the formula, the longer C-O bond distance of the two C-O bond distances is from 0.1435 to 0.1461 nm, and the oxygen atom has a charge of from -0.330 to -0.281, and wherein the composition has a viscosity at 25°C of from 7 to 50 mPa·s.

Claim 7 (Canceled).

8. (Previously Presented) The actinic ray curable composition of claim 6, wherein the composition further contains an oxetane compound II represented by formula 2, 3, 4 or 5 or an oxetane compound III represented by formula 6 or 7, Formula 2

$$R_4$$
 R_5 R_6 R_6 R_6

Formula 3

$$R_4$$
 R_2 $Z-R_7$

Formula 4

$$R_8 - Z - R_4 - Z - R_7$$
 $R_6 - Z - R_7$
 $R_6 - Z - R_7$

Formula 5

$$R_8-Z \xrightarrow{R_1} R_2 Z-R_7$$

wherein R_1 , R_2 , R_3 , R_4 , R_5 and R_6 independently represent a hydrogen atom or a substituent, and Z represents an oxygen atom, a sulfur atom, a divalent hydrocarbon group or a divalent hydrocarbon group in which an oxygen atom or a sulfur atom is intervened,

Formula 6

$$\begin{bmatrix} R_1 & Z \\ R_4 & R_6 \\ R_3 & O & R_5 \end{bmatrix}_m$$

Formula 7

$$\begin{bmatrix} R_1 & R_2 \\ R_4 & Z \\ R_3 & O & R_5 \end{bmatrix}_m$$

wherein R_1 through R_6 independently represent a hydrogen atom, a fluorine atom, an alkyl group having a carbon atom number of from 1 to 6 such as a methyl group, an ethyl group, a propyl group or a butyl group, a fluoroalkyl group having a carbon atom

number of from 1 to 6, an allyl group, an aryl group, or a furyl group; m is 2, 3 or 4; Z represents an oxygen atom, a sulfur atom, a divalent hydrocarbon group or a divalent hydrocarbon group in which an oxygen atom or a sulfur atom is intervened; and R₉ represents a straight chain or branched chain alkylene group having from 1 to 12 carbon atoms, a straight chain or branched chain poly(alkylene oxy) group, or a divalent group selected from the group consisting of the following formula 9, 10 and 11,

Formula 9

Formula 12

wherein n represents an integer of from 0 to 2000; R_{11} represents an alkyl group having from 1 to 10 carbon atoms or a group represented by the following formula 12; and R_{12} represents an alkyl group having from 1 to 10 carbon atoms,

wherein j represents an integer of from 0 to 100; R_{13} represents an alkyl group having from 1 to 10 carbon atoms, Formula 10

wherein R_{14} represents an alkyl group having from 1 to 10 carbon atoms, an alkoxy group having from 1 to 10 carbon atoms, a halogen atom, a nitro group, a cyano group, a mercapto group, an alkoxycarbonyl group or a carboxyl group,

Formula 11

wherein R_{15} represents an oxygen atom, a sulfur atom, -NH-, -SO-, -SO₂-, -(CH₂)-, -C(CH₃)₂- or -(CF₃)₂-.

9. (Original) The actinic ray curable composition of claim 6, wherein the composition further contains an oxirane compound having an oxirane ring.

Claim 10 (Canceled).

11. (Currently Amended) An actinic ray curable ink, containing pigment, a photo acid generator, and an oxetane compound I of the following formula,

$$R_1$$
 R_2 R_4 C R_6 R_8 O R_6

wherein R_1 , R_2 , R_3 , R_4 , R_5 , and R_6 independently represent a hydrogen atom, a fluorine atom, an alkyl group having from 1 to 6 carbon atoms, a fluoroalkyl group having from 1 to 6 carbon atoms, an allyl group, an aryl group, a furyl group or a thienyl group, provided that R_3 , R_4 , R_5 , and R_6 are not simultaneously hydrogen atoms, and wherein the longer C-O bond distance of the two C-O bond distances in the formula is from 0.1464 to 0.1500 nm, and wherein the composition has a viscosity at 25°C of from 7 to 50 mPas.

12. (Currently Amended) An actinic ray curable ink, containing pigment, a photo acid generator, and an oxetane compound I' of the following formula,

wherein R_1 , R_2 , R_3 , R_4 , R_5 , and R_6 independently represent a hydrogen atom, a fluorine atom, an alkyl group having from 1 to 6 carbon atoms, a fluoroalkyl group having from 1 to 6 carbon atoms, an allyl group, an aryl group, a furyl group or a thienyl group, provided that R_3 , R_4 , R_5 , and R_6 are not simultaneously hydrogen atoms, and wherein in the formula, the longer C-O bond distance of the two C-O bond distances is from 0.1435 to 0.1461 nm, and the oxygen atom has a charge of from -0.330 to -0.281, and wherein the composition has a viscosity at 25°C of from 7 to 50 mPa:s.

Claim 13-20 (Cancelled).

This Page is Inserted by IFW Indexing and Scanning Operations and is not part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:
☐ BLACK BORDERS
☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
☐ FADED TEXT OR DRAWING
☐ BLURRED OR ILLEGIBLE TEXT OR DRAWING
☐ SKEWED/SLANTED IMAGES
☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS
☐ GRAY SCALE DOCUMENTS
LINES OR MARKS ON ORIGINAL DOCUMENT
REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
Потивр.

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.